

REMARKS

Applicants respectfully request reconsideration and withdrawal of the rejections of the present application in view of the above amendments and the following remarks. By this Response, claims 2, 5 and 7 have been amended. Applicants note the Listing of claims beginning on page 2 of this Response represents the claims that were reviewed by the Board of Patent Appeals (“the Board”) with the addition of the amendments made in this Response to claims 2, 5 and 7. No new matter has been added. Claims 1-7 and 9 are pending.

In the Office Action, claims 1, 3, 6 and 9 were rejected under 35 U.S.C. § 112, first paragraph, “as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), as the time the application was filed, had possession of the claimed invention.” Reconsideration and withdrawal of the rejection are requested. And, on page 6 of the Examiner’s Answer, mailed November 27, 2002, the Examiner stated that the “needle-shaped silicon crystallites” is excluded from the claim limitation.” However, Applicants respectfully note that in the Decision on Appeal, mailed January 8, 2004, the Board found the language “needle-shaped” to be an appropriate substitute for the “bar-like” language criticized by the examiner, and reversed the § 112 rejection. Thus, Applicants submit “needle-shaped silicon crystallite” should not be excluded from the amendments to the specification and claims filed on November 20, 2001. Applicants respectfully request the rejection be withdrawn.

In the Office Action, claims 1-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,612,250, issued to Ohtani et al. (hereafter “Ohtani”) in view of U.S. Patent No. 5,994,164, issued to Fonash et al. (hereafter “Fonash”). Claim 8 has been cancelled. Thus, the rejection, as applied to cancelled claim 8, is rendered moot. Applicants traverse the rejection because neither Ohtani nor Fonash, singly or in combination, teaches or suggests the combined features recited in the claims of the present application. For example, neither Ohtani nor Fonash, analyzed alone or in any combination, teach or suggest a polycrystalline silicon film that includes, among other features “an electrical conductivity activation energy between 0.52eV and 0.71eV, the polycrystalline silicon film comprising a plurality of needle-shaped silicon crystallites” as recited in independent claims 1. Because Ohtani and Fonash fail to teach or suggest at least this feature of claim 1, claim 1 is patentable over any combination of Ohtani and Fonash.

Further, neither Ohtani nor Fonash, singly or in combination, teaches or suggests a polycrystalline silicon film that includes at least “an electrical conductivity activation energy between 0.52eV and 0.71 eV, the polycrystalline silicon film comprising a plurality of needle-shaped silicon crystallites, the polycrystalline silicon film on an insulating substrate”, as recited in independent claim 3. Because Ohtani and Fonash fail to teach or suggest at least this feature of claim 3, claim 3 is patentable over any combination of Ohtani and Fonash.

Also, neither Ohtani nor Fonash teaches or suggests a polycrystalline silicon film that includes, at least “an electrical conductivity activation energy between 0.52eV and 0.71eV, the polycrystalline silicon film comprising a plurality of needle-shaped silicon crystallites wherein the metal is a catalyst for metal induced crystallization of silicon”, as recited in independent 6. Because Ohtani and Fonash fail to teach or suggest at least this feature of claim 6, claim 6 is patentable over any combination of Ohtani and Fonash.

And, neither Ohtani nor Fonash teaches or suggests a polycrystalline silicon film that includes, at least “an electrical conductivity activation energy between 0.52eV and 0.71eV, the polycrystalline silicon film comprising a plurality of needle-shaped silicon crystallites wherein the metal is a catalyst for metal induced crystallization of amorphous silicon” as recited in independent claim 9. Because Ohtani and Fonash fail to teach or suggest at least this feature of claim 9, claim 9 is patentable over any combination of Ohtani and Fonash.

Applicants respectfully submit that because neither Ohtani nor Fonash teaches or suggests at least the above combined features recited in independent claims 1, 3, 6 and 9, one of ordinary skill in the art would not be motivated to modify the teachings of Ohtani by the teachings in Fonash to obtain a polycrystalline silicon film having the combined features recited in independent claims 1, 3, 6 and 9 of the present application. Accordingly, independent claim 1 and its dependent claim 2, independent claim 3 and its dependent claims 4-5, independent claim 6 and its dependent claim 7 and independent claim 9 are patentable over any combination of Ohtani and Fonash. Reconsideration and withdrawal of the rejection are requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner deems that a telephone conversation would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

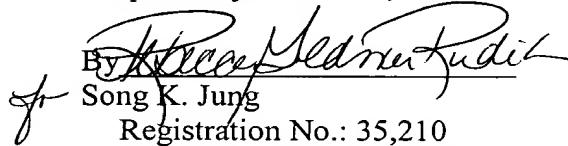
Application No.: 09/497,508
Amendment Dated March 8, 2004

Docket No.: 8733.213.00-US

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: March 8, 2004

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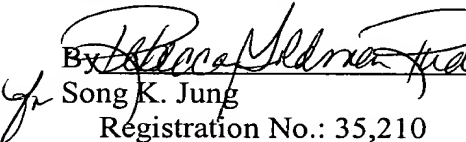
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